selectively enabling a quick view feature in which the image display is automatically turned on in response to actuation of the shutter button for a period of time after the image is captured in order to display the captured image stored in the first buffer memory, and then automatically turned off after the period has elapsed; and

providing an erase command to the processing section, which erases the captured image.

A4 cond.

REMARKS

The drawings were objected to under 37 CFR 1.84(p)(5) because they fail to show element 26 in FIG. 1 and element 50 in FIG. 2C as described in the specification.

Subject to approval of the Examiner, the enclosed FIGS. 1 and 2C have been corrected so that elements 26 and 50 properly designate the corresponding parts. Accordingly, these changes should remove the Examiner's objections to FIGS. 1 and 2C. Applicants will submit corrected formal drawings upon an indication of allowable subject matter.

Claim 4 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention.

By this amendment, claim 4 has been changed to provide proper antecedent basis. Accordingly, amended claim 4 is believed to be patentable under 35 U.S.C. § 112, second paragraph.

Claims 5, 6, 9 and 11-13 were rejected under 35 USC § 102(e) as being anticipated by Fellegara et al. (U.S. Patent No. 5,845,166).

Independent claims 5, 9, and 13 are believed to be patentable over the cited art. By this amendment, independent claims 5, 9, and 13 have been amended to more clearly set forth the present invention. No new matter has been added.

As amended, claim 5 particularly points out that the electronic still camera includes a user interface for selectively enabling a quick view feature in which the image display is automatically turned on after an image is captured. The user interface includes an actuable shutter button which is effective when actuating for permitting the image sensor to capture the image. The electronic still camera further includes an image display controller which is responsive to

actuation of the shutter button for automatically powering up the image display after the image is captured in order to display the captured image stored in the first buffer memory. This is an important feature of the present invention because once a user presses the shutter button to capture an image when the quick view feature is enabled, the image display is automatically turned on, and the image is displayed. This permits the user to review the captured image to see if it is acceptable. If the user does not like the captured image, the user can enable the erase command which causes the image processing to erase the captured image. The camera is then ready to capture and process another picture. Thus, when a captured image is not acceptable to the user, such feature provides a quicker time for the user to capture a next image.

Fellegara et al. do not disclose or suggest the electronic still camera as set forth in amended claim 5. Fellegara et al. disclose a hybrid camera that includes both a digital imaging system and a photographic imaging system. The hybrid camera of Fellegara et al. does not include a user interface for selectively enabling a quick view feature in which the image display is automatically turned on after an image is captured, and an image display controller responsive to actuation of the shutter button for automatically powering up the image display after the image is captured in order to display the captured image stored in the first buffer memory. Although Fellegara et al. teach a quick review switch, the quick review switch must be activated by the camera operator to display the last captured working image on the main screen display unit. The main screen display unit is not activated unless specifically turned on by the camera operator by pressing the quick review switch. Activation of the quick review switch activates the main screen display unit to display the review image. [See Fellegara et al., col. 12, line 62 to col. 13, line 16] Activation of the shutter button on the Fellegara et al. camera in a first position initiates a pre-exposure operation, and activation of the shutter button in a second position initiates an exposure operation. Activation of the shutter button on the Fellegara et al. camera does not automatically power up the image display. In contrast, as set forth in amended claim 5, when the quick view feature of the present invention is enabled, actuation of the shutter button permits the image sensor to capture an image and signals the image display controller to automatically power up the display after the image is

captured in order to display the captured image. The user of the electronic camera of the present invention does not have to activate a separate switch to power up the display for review of the image after an image is captured. Therefore, amended claim 5 is believed to be patentable over Fellegara. Moreover, there is nothing in the Fellegara et al. specification which would suggest these features as set forth in amended claim 5. Accordingly, there is no motivation in Fellegara et al. to provide the present invention. Thus, amended claim 5 is believed to define unobvious subject matter. Claim 6 depends on amended claim 5, and therefore should be allowed along with amended claim 5.

By this amendment, claim 9 has been changed to particularly point out that the electronic still camera includes a shutter button for initiating capture of the images, and an electronic image display for displaying the captured image from the first memory for a first time interval. The electronic still camera further includes a processor for processing images from the first memory and storing the processed images as image files in the second memory, said processor operating over a second time interval to process an image, and a user enabled control section coupled to the processor for erasing an image before the end of the second time interval so as to facilitate the capture and processing of another image. This is an important feature of the present invention because if a user does not like the captured image after seeing it displayed on the image display, the user can cause the processing of the unwanted image to immediately halt and erase the partially completed image file from the second memory. The camera is then ready to capture and process another picture more quickly than having to wait until the processing of the unwanted image is completed.

Fellegara et al. do not disclose or suggest the electronic still camera as set forth in amended claim 9. In particular, Fellegara et al. do not disclose or suggest a processor operating over a second time interval to process an image, and a user enabled control section coupled to the processor for erasing an unwanted image before the end of the second time interval in order to facilitate the capture and processing of another image before processing of the unwanted image is completed. As set forth in col. 13, lines 17-20 of Fellegara et al., the microcontroller erases all of the film mode images stored in the flash memory when the film is rewound into the cartridge. A user cannot erase an unwanted

captured image while it is being processed and before another image is captured. In contrast, after an image is captured with the electronic camera of the present invention, enabling the control section erases any portion of the processed image file in the second memory corresponding to that captured image so that another image can be immediately captured and processed. The user does not have to wait until processing of the image is complete, or until all of the images are captured before erasing an unwanted image. Therefore, amended claim 9 is believed to be patentable over Fellegara et al. Moreover, there is nothing in the Fellegara et al. specification which would suggest the features set forth in amended claim 9. Accordingly, there is no motivation in Fellegara et al. to provide the present invention. Thus, amended claim 9 is believed to define unobvious subject matter. Claim 10 depends on amended claim 9, claim 11 has been cancelled, and claim 12 has been amended to be dependent on amended claim 9. Therefore, claim 10 and amended claim 11 should be allowed along with amended claim 9.

By this amendment, claim 13 has been changed to indicate that when the quick view feature is enabled, the image display is automatically turned on in response to actuation of the shutter button. As described above with regard to amended claim 5, this feature is neither disclosed nor suggested in Fellegara et al.. Accordingly, amended claim 13 is also believed to be patentable over Fellegara et al.

Claims 1-4 were rejected under 35 USC § 103(a) as being unpatentable over Fellegara et al. (U.S. Patent No. 5,845,166) in view of Nagano (U.S. Patent No. 5,561,462).

As for claim 1, the Examiner states that Fellegara et al. disclose a hybrid camera that includes an image sensor, a main screen display unit that displays the image captured by the image sensor, and a quick review switch that allows the user to review the last image captured. The Examiner also states that when the quick review switch is activated, a microcontroller activates the main screen display unit to display the last image captured for a predetermined period of time, and then the microcontroller deactivates (or turns off) the main screen

display unit to conserve power. The Examiner further states that the user can, but is not required to, deactivate the display unit with the quick review switch. The Examiner asserts that this inherently means that the display unit can be turned off automatically.

The Examiner acknowledges that Fellegara et al. do not teach a display that is automatically turned on without user intervention, but instead, teaches that the display unit is not activated unless specifically turned on by the user. However, the Examiner states that Nagano discloses an electronic still camera that includes an image sensor and an electronic viewfinder (EVF) that displays the image captured by the image sensor. For the embodiment in Figure 6, the Examiner states that Nagano teaches a control circuit that causes automatic interval shooting for a number of pictures and at intervals of a given period of time, and that this feature is also capable of suspending a driving action on the image sensor and turning off the electronic viewfinder after the interval shooting operation. The Examiner asserts that when shooting and recording is performed, it is inherent that the EVF is automatically turned on, without user intervention. Furthermore, the Examiner states that Nagano describes this operation on a flow chart in Figure 7. Therefore, the Examiner asserts that it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include a feature that automatically turns on the display after the image is captured. The Examiner states that the user does not have to miss out on capturing other images or scenes while spending time turning on the display.

Independent claim 1 is believed to be patentable over the cited art. By this amendment, independent claim 1 has been amended to more clearly set forth the present invention. As amended, claim 1 particularly points out that the electronic camera includes an optical viewfinder for composing an image prior to image capture, an actuable shutter button effective when actuating for permitting the sensor to capture the composed image, and a quick view feature in which the image display is automatically turned on in response to actuation of the shutter button and without user intervention, for a period of time after an image is

captured, and then automatically turned off. Further, the quick view feature includes a control section for automatically powering up the image display after the image is captured by the sensor in order to display the captured image, and then automatically turning off the image display after the period has elapsed.

Fellegara et al. and Nagano, taken singly or in combination, fail to disclose or suggest the electronic still camera as set forth in amended claim 1. As discussed above with respect to amended claim 5, and as the Examiner acknowledges, the hybrid camera of Fellegara et al. do not include a quick view feature which automatically powers up the image display in response to actuation of the shutter button to display the captured image for a period of time, and then automatically turns off the image display after the period has elapsed. Although Fellegara et al. teach a quick review switch, the quick review switch must be activated by the camera operator to display the last captured working image on the main screen display unit. Activation of the shutter button on the Fellegara et al. camera does not automatically power up the image display.

The Examiner looks to the electronic viewfinder (EVF) of Nagano for teaching a display that is automatically turned on without user intervention. In contrast to the Examiner's assertion, Nagano does not teach or suggest the quick view feature, as set forth in amended claim 1, in which the image display is automatically turned on in response to actuation of the shutter button. The electronic viewfinder of Nagano is used to compose the image taken by the still camera depicted in FIG. 6. Therefore, the electronic viewfinder of Nagano must be turned on when composing the image prior to image capture. As described in column 5, line 46 to column 6, line 15, and as shown in blocks 4a and 4b of FIG. 7 of Nagano, the electronic viewfinder is turned on before the release button is pushed to the SW1 position. In contrast, the electronic camera of present invention includes an optical viewfinder for composing an image prior to image capture. The image display of the present invention is used for viewing an image after it has been captured, and is not turned on until after the shutter button has been actuated. There is no suggestion in Nagano for a quick view feature for operating an image display in response to actuation of a shutter button. Accordingly, amended claim 1 is believed to be patentable and define unobvious subject matter.

Furthermore, there is no motivation to combine Fellegara et al. with Nagano to arrive at the present invention. Both Fellegara et al. and Nagano are directed to different camera features and different problems of an electronic still camera. Fellegara et al. are directed to a hybrid camera that includes a mechanism for identification matching of images stored on a photographic film cartridge and images stored on an electronic storage medium. Nagano is directed to solving the problem of large energy consumption of an electronic viewfinder of a conventional electronic still camera. Even assuming that the cited references could be combined, the quick view feature of the present invention in which an optical viewfinder is used for composing an image prior to image capture and the image display is automatically turned on in response to actuation of the shutter button, without user intervention, for a period of time after an image is captured, and then automatically turned off, and including a control section for automatically powering up the image display after the image is captured by the sensor in order to display the captured image, and then automatically turning off the image display after the period has elapsed, would still not be disclosed or suggested. Accordingly, amended claim 1 is believed to define unobvious subject matter. Claims 2-4 depend on amended claim 1, and therefore, should be allowed along with amended claim 1.

Claims 7-8, 10 and 14-15 were rejected under 35 USC § 103(a) as being unpatentable over Fellegara et al. (U.S. Patent No. 5,845,166).

Claims 7-8 depend on amended claim 5, claim 10 depends on amended claim 9, and claims 14-15 depend on amended claim 13. Since amended claims 5, 9, and 13 are believed to be patentable, as discussed above, claims 7-8, 10, and 14-15 are also believed to be patentable and should be allowed along with amended claims 5, 9, and 13.

In view of the foregoing, it is believed that none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,

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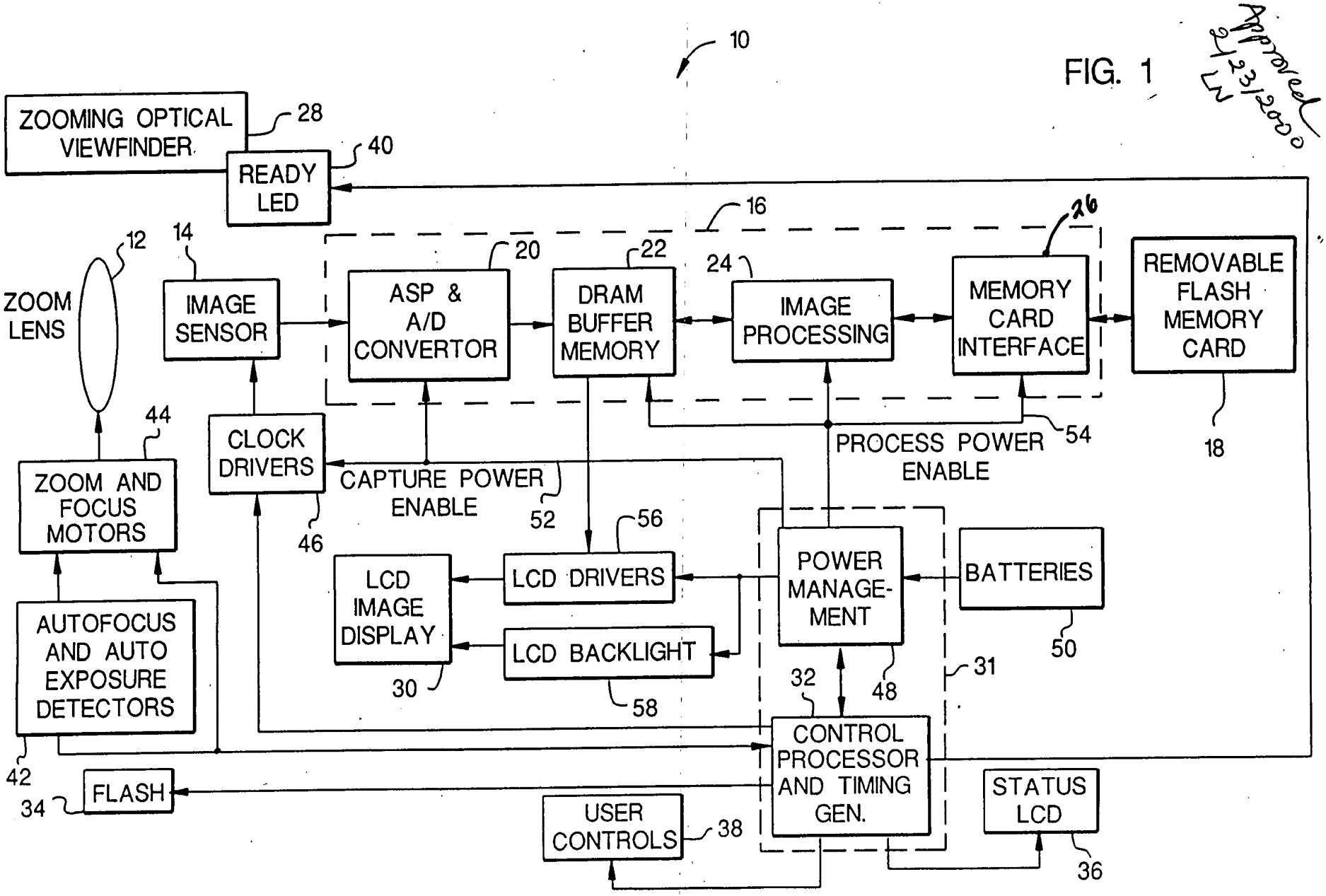
Enclosures: Proposed corrections to Figs. 1 and 2

FIG. 1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ZOOMING OPTICAL VIEWFINDER
28
READY LED
40
16
26
12
14
20
22
24
ZOOM LENS
IMAGE SENSOR
ASP & A/D CONVERTOR
DRAM BUFFER MEMORY
IMAGE PROCESSING
MEMORY CARD INTERFACE
REMOVABLE FLASH MEMORY CARD
18
PROCESS POWER ENABLE
54
44
CLOCK DRIVERS
CAPTURE POWER ENABLE
52
46
ZOOM AND FOCUS MOTORS
56
LCD IMAGE DISPLAY
LCD DRIVERS
LCD BACKLIGHT
30
58
POWER MANAGE-MENT
BATTERIES
50
31
32
48
AUTOFOCUS AND AUTO EXPOSURE DETECTORS
CONTROL PROCESSOR AND TIMING GEN.
42
FLASH
34
USER CONTROLS
38
STATUS LCD
36

Approved
2/23/2000
LN

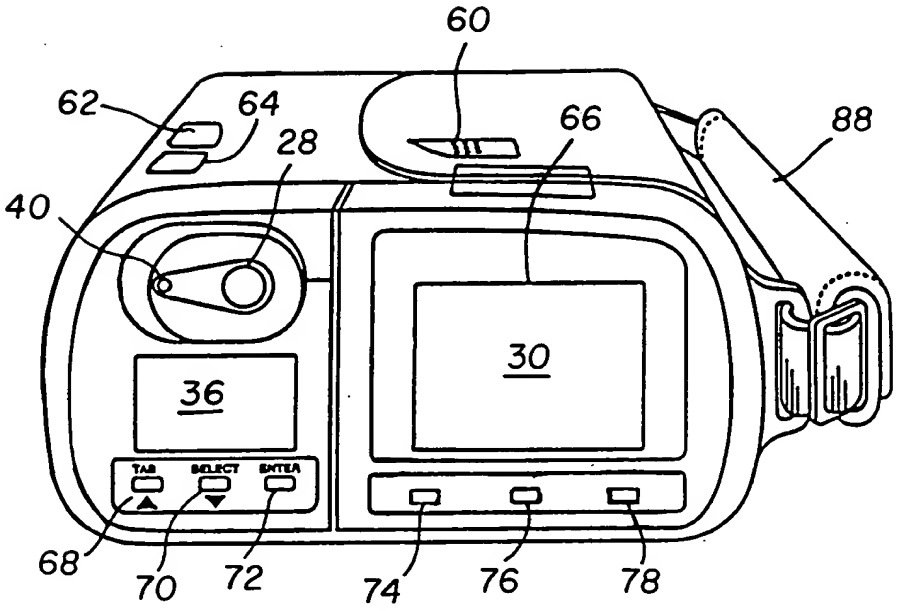

FIG. 2B

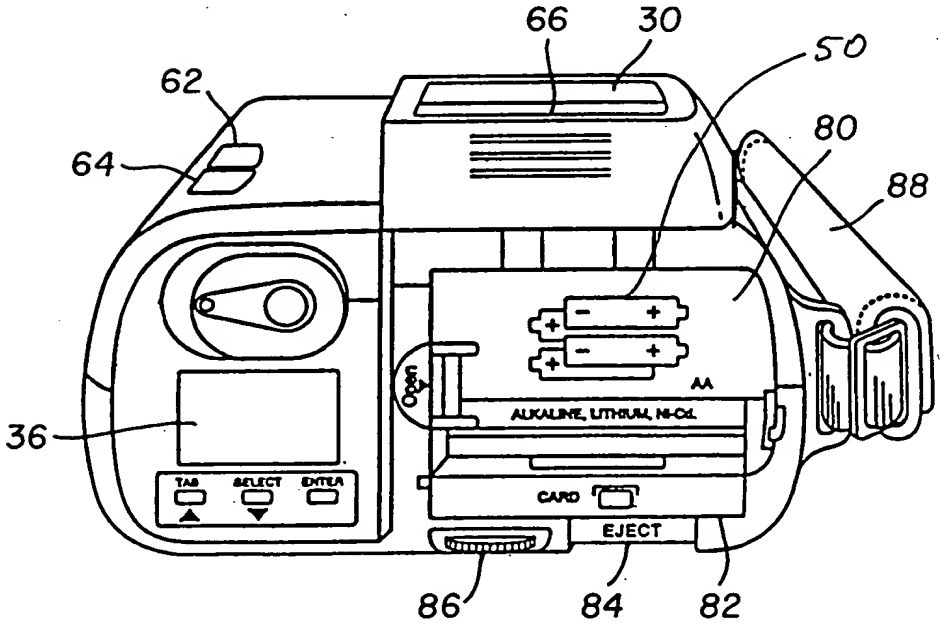

FIG. 2C